

WHAT IS CLAIMED IS:

1. An appearance inspection apparatus comprising:

- a scanning head for scanning a board surface of a body to be inspected to capture an image thereof; and
- a main unit for inspecting the captured image;

wherein said scanning head further comprises:

- at least one telecentric lens and at least a corresponding number of one-dimensional line sensors in an arrangement parallel to the image capturing direction such that each telecentric lens forms an image of reflected light reflected from said board surface and each one-dimensional sensor captures catoptrical light and that each one-dimensional sensor captures an image segment of the board surface for forming a partially overlapping portion; and

wherein said main unit further comprises:

- an image processing unit that assembles the images captured by each of said liner sensors after calibrating pixel data in said overlapping portion and attaches the images together; and
- an analysis unit that inspects an image segment with reference to a given evaluation standard to determine pass or failure for each inspection item.

2. The appearance inspection apparatus as set forth in Claim 1 wherein said image processing unit includes a color correction unit that corrects color convergence occurring in color data pixels in said overlapping portion.

3. The appearance inspection apparatus as set forth in Claim 2 wherein said color correction unit adjusts a color correction table of a second telecentric lens with reference to a color correction table of a first telecentric lens such that color data of pixels in said overlapping portion matches that of said first telecentric lens.
4. The appearance inspection apparatus as set forth in Claim 3 wherein color correction data is generated in advance for correcting chromatic aberrations of said telecentric lenses at the edge of said telecentric lens such that color convergence of said overlapping portion is corrected based on said color correction table image captured by said scanning head.
5. The appearance inspection apparatus as set forth in Claims 4 wherein said image processing unit further comprises a position correction unit for alignment that is based on reference data included in said overlapping portion.
6. A method of inspecting appearance comprising:
 - capturing images of a board to be inspected utilizing multiple telecentric lenses in such a manner that the captured images partially overlap;
 - putting together said images after correcting for color convergence in said overlapped portion; and
 - performing a given inspection based on said synthesized image.